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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,949	12/31/2001	Seyfullah H. Oguz	10830.0079.NPUS00	2180

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EXAMINER

LEE, Y YOUNG

ART UNIT PAPER NUMBER

2613

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/038,949	<b>Applicant(s)</b> OGUZ ET AL.	
	<b>Examiner</b> Y. Lee	<b>Art Unit</b> 2613	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 22-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,10-12,16,20 and 21 is/are rejected.
- 7) ☒ Claim(s) 2-4,6-9,13-15 and 17-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/31/01</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-21, drawn to a method of detecting edges in a compressed video sequence, classified in class 375, subclass 240.08.
  - II. Claims 22-34, drawn to a method of detecting edges in images represented by the I-frames by decoding lengths of variable-length codes for DCT DC coefficients of 8x8 pixel blocks, classified in class 375, subclass 240.2.
  - III. Claims 35-47, drawn to a method of filtering a series of bits indicating whether or not an edge is associated with at least some of the 8x8 pixel blocks with a thinning filter, classified in class 375, subclass 240.29.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II-III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the method of detecting edges in a compressed video sequence does not require the particulars of DCT and the filtering of bits. The subcombination has separate utility such as scene change and pre/post signal filtering.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II or III, and vice versa, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. R. Auchterlonie on 1/25/05 a provisional election was made with traverse to prosecute the invention of group I, claims 1-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 22-47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### ***Claim Objections***

7. Claim 19 is objected to because of the following informalities: line 12 appears to be the beginning of a new claim. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 5, 12, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Mishima et al (5,488,418).

Mishima et al, in Figures 26, 28, 31, 34, 50, and 53, discloses an encoder and decoder using the same method of detecting edges in a compressed video sequence, as specified in claims 1, 5, 12, and 16 of the present invention, the compressed video sequence including at least one I-frame of MPEG video data, the I-frame of MPEG video data including variable-length codes for DCT coefficients of 8x8 pixel blocks in the compressed video sequence, the DCT coefficients including a respective DC coefficient for each of the 8x8 pixel blocks, each respective DC coefficient for at least some of the 8x8 pixel blocks being encoded as a respective variable-length code having a length indicating a certain range of differences in DC coefficient values between adjacent ones of the 8x8 pixel blocks, wherein the method comprises decoding only the length 17 of the respective variable-length code for the respective DC coefficient for each of at least some of the 8x8 pixel blocks in order to produce an indication of whether or not the compressed video sequence includes an edge associated with said each of at least some of the 8x8 pixel blocks; and performing a code length threshold comparison 30 upon the length of the respective variable-length code for the respective DC coefficient for each of at least some of the 8x8 pixel blocks for producing at least one respective bit indicating whether or not the compressed video sequence includes an edge associated with each of at least some of the 8x8 pixel blocks.

With respect to claims 5 and 16, Mishima et al also discloses using a thinning filter (Fig. 53) for filtering the respective bits indicating whether or not the compressed video sequence includes an edge associated with each of at least some of the 8x8 pixel blocks (Fig. 50).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 10, 11, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mishima et al in view of Thomas (6,801,672).

Although Mishima et al discloses the well known DCT encoding method including respective horizontal and vertical frequency DCT coefficients for each of the 8x8 pixel blocks in Figure 53, it is noted Mishima et al differs from the present invention in that it

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fails to particularly disclose any details of any edge orientation as specified in claims 10, 11, 20, and 21. Thomas however, in Figures 2 and 8, teaches the concept of such well known inspection method to determine the orientation of an edge for computing an approximate gradient vector of the edge associated with at least one of the pixel blocks.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having both the references of Mishima et al and Thomas before him/her, to exploit the well known gradient vector computation technique as taught by Thomas in the edge detection method of Mishima et al, in order to provide a fast and computationally efficient method of edge detection for block coded video and scene change detection for MPEG video.

#### ***Allowable Subject Matter***

13. Claims 2-4, 6-9, 13-15, and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

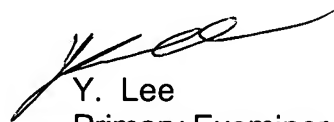
#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. Lee whose telephone number is (703) 308-7584. The examiner can normally be reached on (703) 308-7584.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Y. Lee  
Primary Examiner  
Art Unit 2613

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